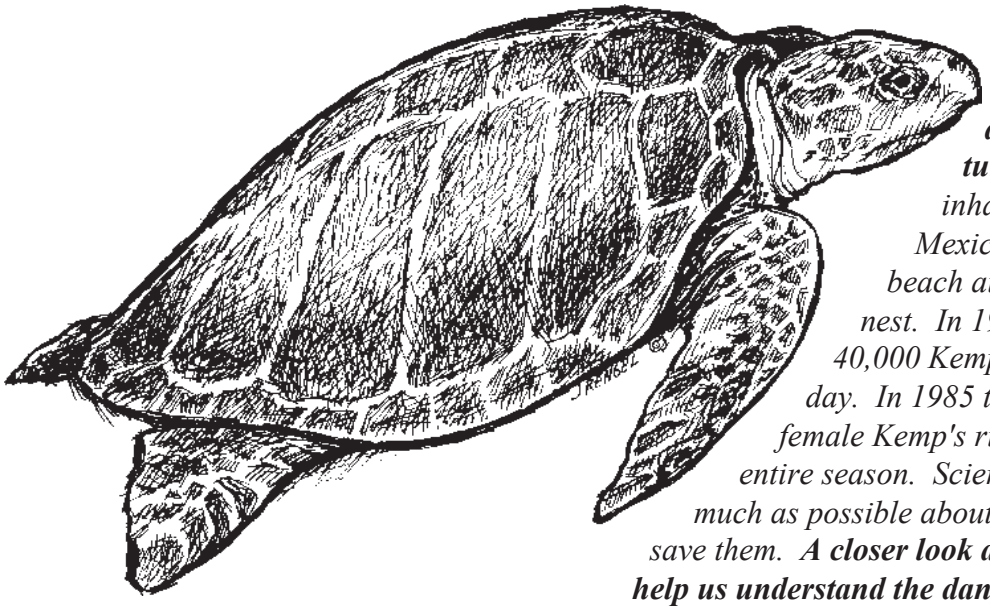
Nature's Call

A Newsletter for Kids by Utah's Project WILD



Kemp's ridley sea turtles are the most endangered sea turtles in the world. *They inhabit primarily the Gulf of Mexico and return each year to a beach at Rancho Nuevo, Mexico, to nest. In 1947 there were as many as 40,000 Kemp's ridleys seen nesting in one day. In 1985 there were fewer than 500 female Kemp's ridleys known to nest in an entire season. Scientists are trying to learn as much as possible about these sea turtles in order to save them.* ***A closer look at the Kemp's ridleys may help us understand the dangers facing all sea turtles.***

On the Brink of Extinction!

Sea turtles have roamed our planet's oceans and seas for a long, long time. **The first sea turtles were here 150 million years ago, and the ancestors of the turtles we see today entered the ocean 60 million years ago!** Being reptiles, they're cold-blooded, have a backbone and scales, breathe air and lay eggs. Normally, only the adult females ever leave the sea, and then it is only to lay their eggs. To do this, they crawl from the ocean and remain on land for approximately 1 to 4 hours. Then they retreat back to the surf and disappear into the sea.

Today there are eight species of sea turtles found throughout the world in tropical and sub-tropical areas. In addition to the Kemp's ridley, there are the olive ridley, loggerhead, hawksbill, Australian flatback, green, East Pacific green (or black), and leatherback.

All sea turtles are protected by international laws, but some sea turtles are more endangered than others. The governments of Mexico and the United States are working together to try to save the Kemp's ridleys. One way they do this is by completely protecting the ridley's nesting beach; and another way is by reducing the dangers faced by the turtles in the ocean. A major danger in the ocean was the drowning of turtles in shrimp nets. Sea turtles trapped in shrimp nets soon drown because they can't surface to breathe. The people who fish for shrimp are being asked to modify their nets so that trapped sea turtles may escape. **Scientists hope that their conservation efforts will help save the Kemp's ridleys!**

Puzzling Pieces

There are many things about sea turtles that puzzle scientists. You can learn about sea turtles by answering these puzzling questions asked by the biologists who are working to save the Kemp's ridleys. ***Write your answers below.***

1 Kemp's ridley females nest every one or two years after they reach adulthood. During the year that they nest, they come onto the beach as many as 3 times and lay eggs. They will lay an average of 100 eggs in each nest. In 2000 there were a total of 6,100 nests. How many eggs were laid?

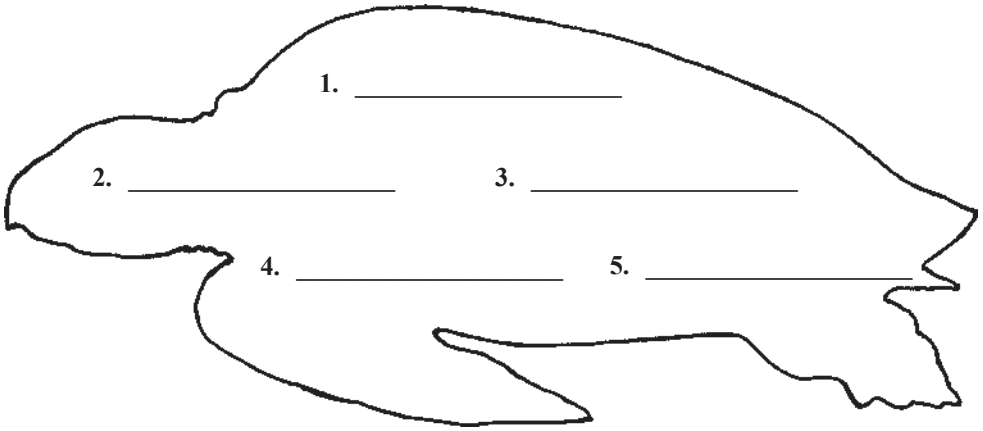
2 If, on the average, each female turtle nests 3 times and there is a total of 6,100 nests, how many female turtles do biologists think came onto the beach to nest?

3 If 80% of the total eggs hatch, how many hatchlings will there be?

4 In the past, natural predators like black vultures, ghost crabs and coyotes would prey on the hatchlings as they raced from their nests to the ocean. The actual percentage of hatchlings which survive the race to the ocean on an unprotected beach is unknown. If you guess that an average of 40% of these hatchlings survive, how many of those hatchlings would ever reach the ocean? *Use the number of hatchlings you found in #3 to help you find this answer.*

Today, because the hatchlings at Rancho Nuevo are carefully protected, all of the hatchlings are released safely into the surf!

5 Even though there are thousands of sea turtles hatched each year, scientists estimate that only 1 in 1,000 (0.1%) to 1 in 10,000 (0.01%) of the hatchlings will survive to return to the nesting beach as adult females. If .01% of the hatchlings released this year survive to adulthood, how many adult females will return to nest?



If the number of nesting females declines, there will be fewer hatchlings and, subsequently, fewer adult turtles returning to nest. The continuing loss of turtles from the breeding population is now due mainly to their drowning in shrimp nets. This loss significantly increases the threat of extinction for the Kemp's ridleys!

The Great Arrival

Kemp's ridley sea turtles nest during the day. They dig their nests in the sand with their hind flippers, lay their eggs and carefully cover their nests before heading back to the ocean. There will be a few times during the nesting season when **MANY** female Kemp's ridleys come onshore to nest during the **SAME** day! **This year, there was one day when 200 turtles nested! This is called an "arribada," which in Spanish means "great arrival."**

Imagine that you are a student from the University of Michoacan in Mexico helping on the beach during an "arribada." Each nest must be marked so you can return later to remove the eggs to a safe location elsewhere on the beach. Right now you see four turtles on the beach. One is already drawn here. This turtle is almost finished laying her eggs, and someone has already marked her nest! You can add the other three turtles to the picture.

Draw in one turtle which is just beginning to lay her eggs, and then mark her nest with a tall stick and orange tape. Remember that turtles usually select nest sites well away from where the tide might reach them and wash them away. Now, draw one turtle as she crawls from the surf, looking for a good nesting location. Then draw one more turtle which has finished nesting and is returning to the ocean. Remember to add the tracks of the turtles in the sand.

Wherever They Go, There They Are!

--a mapping activity for Kemp's ridleys

Imagine that you are a biologist working for the U.S. Fish and Wildlife Service. In order to follow the movement of the Kemp's ridleys after they leave their nesting beach, you have attached numbered, metal tags to the front flippers of many turtles. In addition, you are just beginning to experiment with satellite telemetry to track turtles carrying transmitters. Reported sightings of tagged turtles as well as information relayed from satellites help you to track the Kemp's ridleys.

Before you record the data you have collected, you need to complete the map on the next page. We have identified the major nesting beach at Rancho Nuevo and added the prevailing ocean currents. ***Using an atlas, add the following information:***

- Label Cuba, Gulf of Mexico, Caribbean Sea, Atlantic Ocean, Yucatan Peninsula in Mexico, Texas, Louisiana, Mississippi, Alabama, Florida, Virginia, Maryland, Delaware and New York.
- Place a star where you guess Utah would be located.
- Color Chesapeake Bay and Cape Cod blue.
- Identify north, south, east and west.

Now, you're ready to record the data you have collected.

1 You have received tags from adult Kemp's ridley turtles found off the coast of Louisiana. ***For these adult turtles, draw a red line tracing a path along the coast from Rancho Nuevo to Louisiana.***

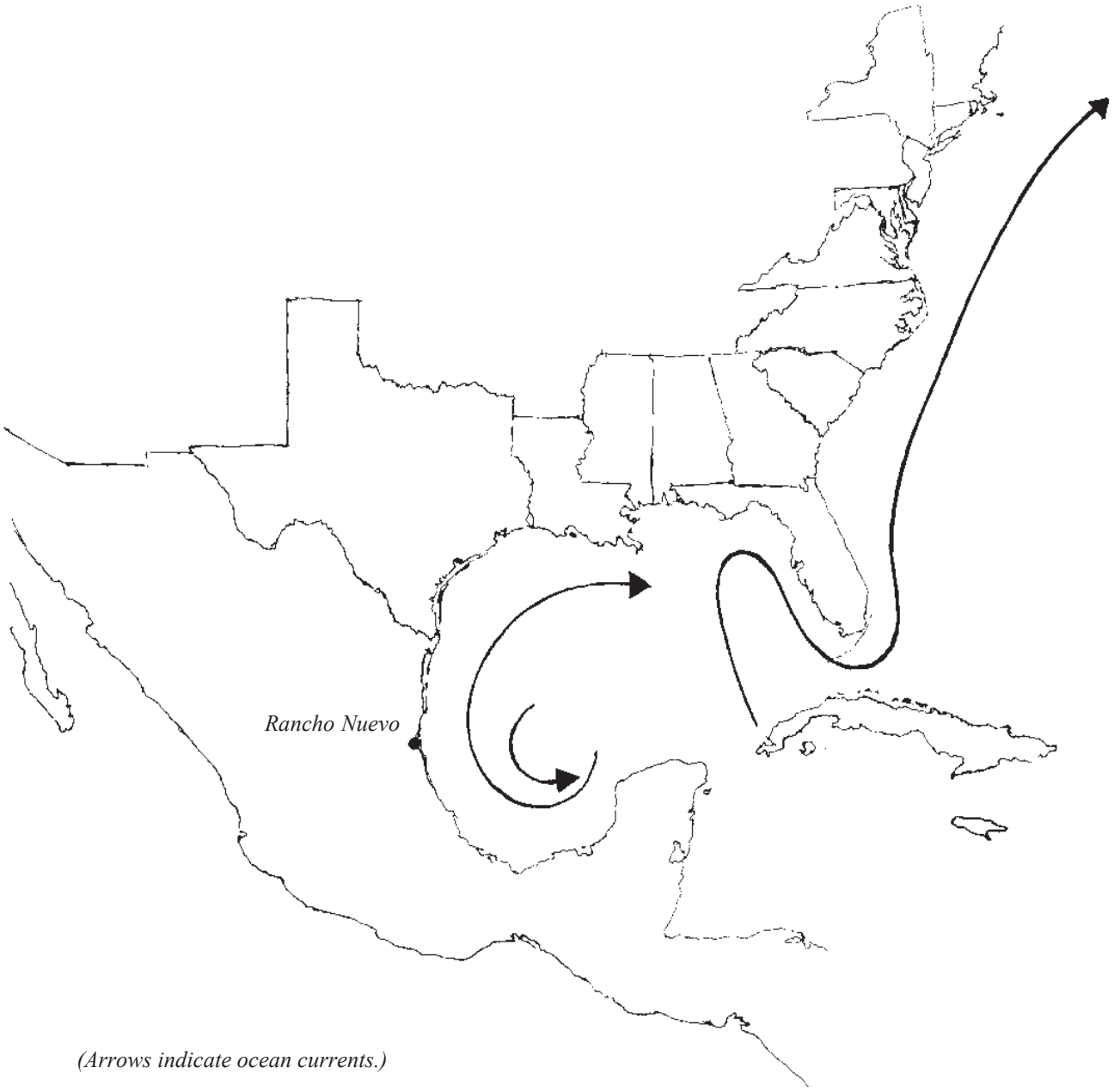
2 Other tags from adult turtles have been returned from near the west side of the Yucatan Peninsula. ***For these adult turtles, draw a red line tracing a path along the coast from Rancho Nuevo to the Yucatan.***

3 Tags from many juvenile Kemp's ridleys have been recorded in coastal waters such as bays and estuaries (where rivers join the ocean) all along the coast of Mexico and our southern states to the northwest coast of Florida. They have also been found all along the eastern coast of the United States from Florida up into Chesapeake Bay and Cape Cod. ***Draw two green lines to trace these paths for juvenile Kemp's ridleys.***

4 Although you can't tag hatchlings (they're too small!), sightings indicate that they swim east from Rancho Nuevo in the Gulf of Mexico until they're picked up by the prevailing currents. Many remain in the Gulf. ***For these hatchlings, draw a blue line following the prevailing currents near Rancho Nuevo in the Gulf.*** Some hatchlings reach the eastern current in the Gulf and are carried north into the Atlantic. ***For these hatchlings, draw a blue line following the current into the Atlantic Ocean.***

Wherever They Go, There They Are!

--a map following the Kemp's ridleys at sea



(Arrows indicate ocean currents.)

When you finish your map, study the data you have recorded. As a biologist, what conclusions might you draw? Write your conclusions here!

The Lost Years

At Rancho Nuevo, hatchlings emerge from their nests approximately 55 days after the eggs are laid. Their incredible journey begins with their release into the ocean. These hatchlings will not return to Rancho Nuevo for 8 to 15 years, until they have reached maturity and are ready to breed and nest. Because scientists are still learning about where these young turtles go, these first several years of a turtle's life are called "the lost years."

Choosing from the information in the boxes below, create an unforgettable journey for one of these Kemp's ridley sea turtles. On a separate piece of paper, write about the adventures, action and drama occurring in the life of your sea turtle. Where does your turtle go? How does it escape the dangers awaiting it in the ocean? What does the ocean environment look like? Does your turtle survive to return to Rancho Nuevo? If you want more information, research any of the topics in the boxes and add the new information to your story.

Food

For hatchlings:

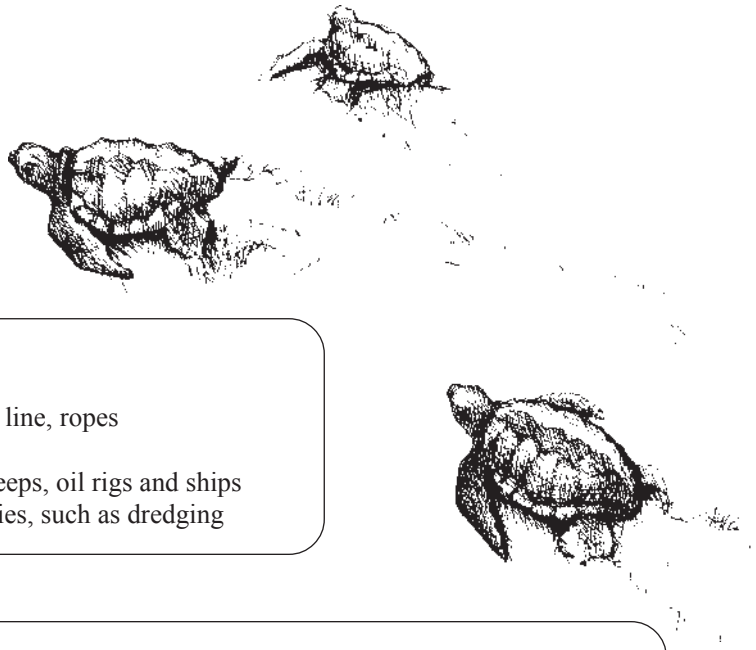
- plankton
- jellyfish
- shrimp
- crabs
- seaweed

For larger turtles:

- primarily crustaceans, especially crabs
- jellyfish
- mollusks, such as clams
- seaweed

Natural Dangers

- Smaller turtles may be eaten by large fish and birds.
- sharks, like the tiger shark
- cold-stunning - Turtles are unable to swim or digest their food when water temperatures fall below about 55°F.



Human-caused Hazards

- drowning in shrimp nets
- getting caught in other kinds of fishing nets, line, ropes
- eating plastic bags and other plastic debris
- coating or eating of oil and tar from spills, seeps, oil rigs and ships
- injury from boat propellers or marine activities, such as dredging

How and where do they move?

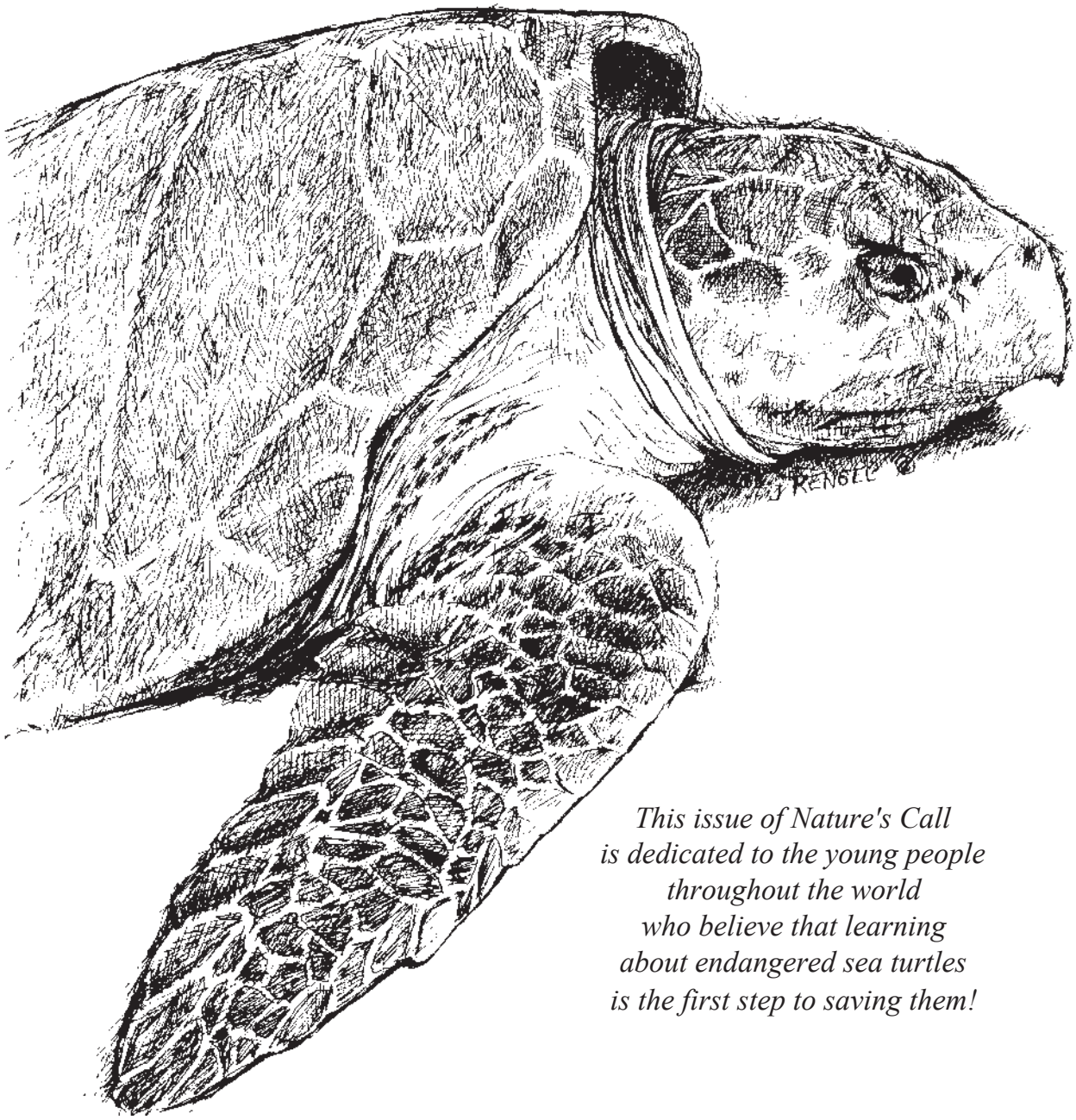
- Hatchlings often drift in masses of sargassum, a type of seaweed.
- Young turtles float with the ocean currents until they are about 8" in length.
- Oarlike front flippers pull through the water while hind flippers steer like rudders.
- Turtles are camouflaged by being light on the bottom and dark on the top. Looking up, predators see only light color against a light surface; and looking down, predators see a dark top against the darkness of water.
- For movement of turtles, refer to the map you created in "Wherever They Go, There They Are!".

All Sea Turtles Great and Small!

Most scientists now identify eight different species of sea turtles. From the information given below, make a bar graph representing the weight of adult females of each species. (Can you think of a way to show the range of weights?)

Sea Turtles	Weight in Pounds
Green	250 - 400 lbs.
East Pacific Green	80 - 140 lbs.
Hawksbill	80 - 140 lbs.
Kemp's Ridley	80 - 90 lbs.
Olive Ridley	80 - 90 lbs.
Loggerhead	115 - 300 lbs.
Leatherback	710 - 1300 lbs.
Australian Flatback	average 160 lbs.

Now, using the information shown on your graph, make up four questions to ask your class. The students should be able to answer your questions by reading their own graphs!



This issue of Nature's Call
is dedicated to the young people
throughout the world
who believe that learning
about endangered sea turtles
is the first step to saving them!

Written by Brenda Schussman; edited by Brenda Schussman and Daphne Sewing, Utah Project WILD Coordinators; content reviewed by Richard Byles, U. S. Fish and Wildlife Service; and illustrated by Jill Rensel. Originally created fall 1991. Updated fall 2000

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